

WHAT IS CLAIMED IS:

1. A surface acoustic wave device comprising:  
5 a piezoelectric substrate having a first surface  
on which comb-like electrodes are formed, and a second  
surface; and  
a support substrate joined to the second surface  
of the piezoelectric substrate,  
the piezoelectric substrate being made of lithium  
10 tantalite, and the support substrate being made of  
sapphire,  
the following expressions being satisfied:  
 $T/t < 1/3$  (1)  
 $T/\lambda > 10$  (2)  
15 where  $T$  is a thickness of the piezoelectric  
substrate,  $t$  is a thickness of the support substrate,  
and  $\lambda$  is a wavelength of a surface acoustic filter  
propagated along the first surface of the piezoelectric  
substrate.
- 20 2. The surface acoustic wave device as claimed  
in claim 1, wherein the piezoelectric substrate is a Y-  
cut X-propagation piezoelectric substrate.
- 25 3. The surface acoustic wave device as claimed  
in claim 1, wherein the surface acoustic wave device is  
a filter.
- 30 4. A filter comprising:  
a piezoelectric substrate having a first surface  
on which comb-like electrodes are arranged so as to  
form a transmit filter and a receive filter, and a  
second surface; and  
a support substrate joined to the second surface  
35 of the piezoelectric substrate,  
the piezoelectric substrate being made of lithium  
tantalite, and the support substrate being made of

sapphire,

the following expressions being satisfied:

$$T/t < 1/3 \quad (1)$$

$$T/\lambda > 10 \quad (2)$$

5 where  $T$  is a thickness of the piezoelectric substrate,  $t$  is a thickness of the support substrate, and  $\lambda$  is a wavelength of a surface acoustic filter propagated along the first surface of the piezoelectric substrate.